EXPERIMENTAL EVALUATION OF SAND CEMENT BRICKWALL AS LOAD BEARING STRUCTURE

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Report is submitted as
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DECLARATION

I, HASMUNIR BIN HAMID, UiTM no. 2002634086, confirm that the work is my own and that appropriate credit has been given where reference has been made to the work of others.

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(HASMUNIR BIN HAMID)
(8 MARCH 2005)

ABSTRACT

The birth of alternative construction techniques and new construction materials have offer many advantages as compared to the traditional construction methods and basic materials. Bricks are normally used as infill materials in framed structures in conventional design and construction of buildings. However, research has shown that bricks can also be used as an external and internal load bearing walls, where the structural masonry aided cheaper and faster construction. Load bearing walls were introduced in buildings as cost savings. The cost savings come in the form of less beam column framing system, smaller foundation, speedy erection, shorter construction time and finally reduced labour costs. In comparison to reinforced concrete framed buildings, which are by far most common found in Malaysia, new market for buildings constructed on load bearing walls using bricks need to be investigated. Wall is always known as a structural element used to divide or enclose spaces in building to form the periphery of a room or a building. This study determined the capability sand cement bricks to withstand load in load bearing wall system. It enhanced new construction methods to provide alternative and cost effective technique in the nation's building industry. Investigation was carried out by erecting three of sand cement brick walls of the size 1000mm x 1000mm and half brick thick. The structural behaviour of these brick walls due to compressive axial showed sand cement brick wails are suitable to be used as load bearing wall. From the study, it can be concluded that sand cement brick wall showed better performance as load bearing wall, with maximum lateral displacement of 7.29mm, vertical deflection of 5.84 mm and ultimate load of 309.5 kN.

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